

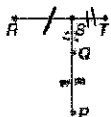
202 Addition Proof HW

7. Copy and complete the proof.

Given: $\overline{PQ} \cong \overline{RS}$, $\overline{QS} \cong \overline{ST}$

Prove: $\overline{PS} \cong \overline{RT}$

Proof:



Statements	Reasons
a. $\underline{?}$, $\underline{?}$	a. Given
b. $PQ = RS$, $QS = ST$	b. $\underline{?}$
c. $PS = PQ + QS$, $RT = RS + ST$	c. $\underline{?}$
d. $\underline{?}$	d. Addition Property
e. $\underline{?}$	e. Substitution
f. $\overline{PS} \cong \overline{RT}$	f. $\underline{?}$

a) $\overline{PQ} \cong \overline{RS}$; $\overline{QS} \cong \overline{ST}$

b) def of \cong

c) SAP

d) $PQ + QS = RS + ST$

e) $PS = RT$

f) def of \cong

Justify each statement with a property of equality or a property of congruence.

12. If $\overline{JK} \cong \overline{LM}$, then $\overline{LM} \cong \overline{JK}$.

13. If $AB = 14$ and $CD = 14$, then $AB = CD$.

14. If W , X , and Y are collinear, in that order, then $WY = WX + XY$.

15. If $\overline{MN} \cong \overline{PQ}$ and $\overline{PQ} \cong \overline{RS}$, then $\overline{MN} \cong \overline{RS}$.

16. If $EF = TU$ and $GH = VW$, then $EF + GH = TU + VW$.

17. If $JK + MN = JK + QR$, then $MN = QR$.

12) symmetric

13) substitution

14) S.A.P

15) transitive

16) Addition

17) Subtr.

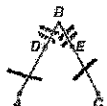
18. Copy and complete the proof.

Given: $\overline{AD} \cong \overline{CE}$, $\overline{DB} \cong \overline{EB}$

Prove: $\overline{AB} \cong \overline{CB}$

Proof:

Statements	Reasons
a. $\underline{?}$	a. Given
b. $AD = CE$, $DB = EB$	b. $\underline{?}$
c. $AD + DB = CE + EB$	c. $\underline{?}$
d. $\underline{?}$	d. Segment Addition Postulate
e. $\overline{AB} \cong \overline{CB}$	e. $\underline{?}$
f. $\overline{AB} \cong \overline{CB}$	f. $\underline{?}$



a) $\overline{AD} \cong \overline{CE}$ $\overline{DB} \cong \overline{EB}$

b) def of \cong

c) Addition

d) $AD + DB = AB$

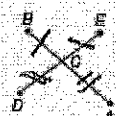
$CE + EB = CB$

e) Subst

f) def of \cong

53. Given: $BC = EC$, $CA = CD$

Prove: $BA = DE$



Statements | Reasons

1) $BC = EC$, $CA = CD$ | 1) Given

2) $BC + CA = EC + CD$ | 2) Addition

3) $BC + CA = BA$ | 3) SAP

$EC + CD = DE$

4) $BA = DE$ | 4) Subst.